

by this inquiry into the position and prospects of chemical research is, that the position here is by no means as satisfactory as we could wish—that much more might be done if the conditions were made more favourable for our active workers. In view of the actual achievements, accomplished in spite of the existing disabilities, it appears that the prospects for this country as a home of chemical research have been improving during the last decade with greater rapidity than at any previous period in the history of our society. But it is also obvious that there is much work yet ahead of us before the environment in which our workers find themselves is properly cleared from obstructions.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

OXFORD.—A large and brilliant company assembled in the Sheldonian Theatre on Wednesday, June 26, to celebrate the Encenia. The recently elected Chancellor, Lord Curzon, presided. Reverting to a practice which has been discontinued for some years, the authorities reserved a portion of the upper gallery for undergraduates. Honorary degrees were conferred upon a number of men of distinguished eminence. The following is the text of the speeches delivered by Prof. Love in presenting the recipients of the degree of D.Sc. *honoris causa*. Dr. Ludwig Mond, F.R.S., upon whom the honorary degree of D.Sc. was to have been conferred, was unable to be present.

SIR RICHARD DOUGLAS POWELL, BART., K.C.V.O.

Humani generis defensor contra phthisim, pestem omnium tæterrimam, inventus est Ricardus Douglas Powell. Qui vir cum medicinæ se dedisset, ac præsertim huius morbi causas cognosceret, remedia excogitaret, curandi modos quos optimos esse iudicaret se probaret, summam gloriam et scientia et scriptis assecutus est. Difficile est pro meritis eum laudare qui nihil in vita egerit nisi ut laborantibus salutem afferat: illud brevissime dixim hunc esse quo ne reges quidem nostri carere possint, seu adversa valetudine utantur, sive prospera. Fuit enim Reginæ Victoriæ nobis nuper ereptæ medicus ordinarius, et nunc Edwardo, regi nostro dilectissimo, medicus extra ordinem est. Viri merita declarant collegarum iudicium, a quibus Regalis Collegii Medicorum Præses factus est; declarant honores inusitati a rectoribus nostris collati, qui eum Baronetum et amplissimi ordinis Victoriani militem commendatorem creaverunt; declarant tacitæ tenuiorum gratiæ, quorum necessitatibus in maximis Londinii valetudinariis hic medicorum princeps ministrat.

SIR NORMAN LOCKYER, K.C.B., F.R.S.

Inter eos qui solis stellarumque natura quæ sit optime docuerunt primarium fere locum occupat Josephus Norman Lockyer. Dies me deficiat si miracula ab eo prolata de mundorum origine, de ratione quæ inter solis maculas et orbis terræ tempestates intercedat, si legationes solis defectus observandi causa in loca remotissima missas enumerare coner. Ex tot rebus gestis summam duas tantum. Quadraginta abhinc annos duo viri, uterque suo Marte fretus, Jannssen in Gallia, in Britannia hic noster, instrumenta effinxerunt quibus usi flammæ illas ingentes, quas e sole excurrere videmus quando eius orbi luna officit, sole non obscurato cernerent. Cum ex harum flammularum observatione multum de materia e qua sol constat colligi possit, res tanti habita est ab Academia Gallica ut numismate impresso insigniretur. Altera huius viri laus est singularis quod Acta Hebdomadalia, in quibus quicquid novi in omni Scientiæ Naturalis genere a viris doctis ubique repertum est enarratur, conscribenda curabit: qua in re cum summam diligentiam et peritiam præstaret, de omnibus qui scientiæ promovendæ student optime meritis est.

SIR WILLIAM RAMSAY, K.C.B., F.R.S.

In tenebris fere incognitis quæ inter Chemiæ et Physicæ fines intercedunt nemo certius insistit quam Willelmus Ramsay. Testis est illa Baronis Rayleigh vox in hac urbe tredecim abhinc annos audita, qui, cum vapore incognitum quendam in aere esse confirmaret, hunc virum inventi socium esse dixit. Rariora posthac metallorum

genera hic noster perscrutatus est, si qua huius vaporis vestigia deprehenderet; invenit autem non ipsum quidem vaporem sed metallum quoddam quod Helium vocant: hoc in sole exstare iam notum erat, nemo ulla eius apud nos indicia umquam odoratus est: mox cum de aeris natura subtilius quaereret, tres vapores novos detexit. His an 'is miræ eius metalli quod Radium appellatur virtutes et mutationes multorum animos commoverunt: hic vir exstitit qui stabile illud, quod ex his mutationibus gignitur, Helium esse ostenderet: quo facto causas quibus solis calor atque lumen per sæcula innumerabilia alitur illustrare potuit.

SIR WILLIAM HENRY PERKIN, F.R.S.

E conchis radicibus, plantis, insectis antiqui pigmenta extrahebant, Willelmus Henricus Perkin inventus est qui ex carbonibus decoctis idem faceret, tanto successu ut hodie vel plantis vel animalibus supersederi fere possit. Quid? Nitidissimi calores quibus fulgent tot formosæ, quæ circumsedunt, dominæ, Doctorumque nostrorum vestes, quæ avium silvas Indicas incolentium plumas æmulantur, unde, quæso, hic splendor omnis profectus est nisi ex invento quod hic noster fecit, cum puer esset annos septendecim natus? Multi sunt, ut hunc omittam, qui ex hoc reperto divitias comparaverint, in Germania præsertim, ubi mercatores ita doctrina instituti sint ut inventa in usum convertere possint, et ea sit vectigalium ratio ut artificia nova pecuniis publicis adjuvantur. Inventor ipse satis iam locupletatus se scientiæ totum dedit: lucis quidem percussæ et ex alia re in aliam conversæ rationem et vim occultam nemo magis intellegit.

PROF. WATSON CHEYNE, C.B., F.R.S.

Rationum Listerianarum, ut cum chirurgis loquar, quasi personam gerit Willelmus Watson Cheyne, qui et in his constituendis inventoris socius fuerit et in exercendis multo longius progressus sit. Rebus in Africa Australi turbatis hic ad bellum profectus est civilis chirurgus cuius ope et cura milites uterentur. Dolendum est eius peritiæ tantum tum patuisse campum, medendi rationibus tantum fuisse opus: illud profecto gaudendum, hunc virum præsto fuisse qui sauciorum cruciatus leniret, quique chirurgiæ ratione usque omni instructus multorum vitam conservare posset: nullo quidem in bello antea gesto tot e vulneratis redire potuisse notum est. Hodie pace confirmata chirurgiæ rationes optimas exponit, dumque multitudinibus in magnas urbes congregatis succurrit, diligentiam peritiamque suam difficillimo belli tempore probatam vir strenuus præstat.

MANCHESTER.—At the annual degree ceremony on June 29 the honorary degrees were conferred upon Baron D. Kikuchi and Prof. G. E. Hale, the presentation addresses being delivered by Prof. A. Schuster, F.R.S. Baron Kikuchi, who upholds the spirit of open-minded fraternity which unites the universities of the world. A graduate of Cambridge, he has occupied the chair of mathematics in the Imperial University of Tokyo, and through his studies of the older mathematicians of Japan he has taught us interesting facts as to their methods of investigation. He has held the position of president of the Imperial University, and of Minister of Education; he has represented his country at important international conferences, and taken an active part in introducing a scientific system of weights and measures into Japan. Prof. G. E. Hale was formerly director of the famous observatory of the University of Chicago, built and equipped by the late Mr. Yerkes, and is the organiser and director of the Mount Wilson Solar Observatory, on the crest of the Sierra Nevada.

It is of interest to note that the M.Sc. degree was conferred upon the exceptionally large number of sixty-three candidates. Under the new regulations, the master's degree in science is only obtainable upon satisfactory completion of post-graduate study or research, and there is thus every indication of the success of the scheme in increasing the spirit of research in the University.

MR. J. STRUTHERS, lecturer in agriculture and chemistry in the West of Scotland Agricultural College, Glasgow, has been appointed secretary and agricultural chemist in Japan to the Asociación Salitrera, and leaves in August to take up his new duties in Tokyo.

THE offer of nomination for appointment by the Crown on the governing body of the Imperial College of Science and Technology has been accepted by the Earl of Crewe, Lord President of the Council; Mr. Gerald W. Balfour; Sir Francis Mowatt, G.C.B.; Sir Julius C. Wernher, Bart.; Sir William H. White, K.C.B., F.R.S.; and Dr. MacAlister, principal of the University of Glasgow. The other persons nominated as first members of the governing body are:—by the President of the Board of Education, Mr. A. H. D. Acland; Mr. F. G. Ogilvie, C.B., a principal assistant secretary of the Board of Education; Mr. J. C. G. Sykes, an assistant secretary of the Board; and Dr. R. T. Glazebrook, F.R.S., director of the National Physical Laboratory; by the University of London, Sir E. H. Busk, past Vice-Chancellor of the University; Prof. Capper; Prof. Farmer, F.R.S.; Sir Henry E. Roscoe, F.R.S.; and Sir A. W. Rücker, principal of the University; by the London County Council, Mr. A. A. Allen, M.P.; Mr. H. Percy Harris, chairman of the Council; Sir C. Kinloch-Cooke; Mr. R. A. Robinson; and Mr. J. T. Taylor; by the City and Guilds of London Institute, the Earl of Halsbury, F.R.S., chairman of the council of the institute; Sir J. Wolfe Barry, K.C.B., F.R.S.; Sir Owen Roberts, clerk to the Clothworkers' Company; Sir Walter S. Prideaux, clerk to the Goldsmiths' Company; and Sir John Watney, hon. sec. of the institute; by the Royal Commissioners for the Exhibition of 1851, Viscount Esher, G.C.V.O., K.C.B., and Lieut.-Colonel Sir Arthur Bigge, G.C.V.O., K.C.B.; by the Royal Society, Sir Archibald Geikie, F.R.S.; by the professorial staff, Prof. Tilden, F.R.S., Prof. Gowland, and Prof. Dalby; by the Institution of Civil Engineers, Sir Alex. B. W. Kennedy, F.R.S., president of the institution; by the Institution of Mechanical Engineers, Mr. T. Hurry Riches, president of the institution; by the Institution of Electrical Engineers, Mr. R. Kaye Gray, past-president of the institution; by the Iron and Steel Institute, Sir Hugh Bell, Bart., president of the institute; by the Institution of Naval Architects, Dr. F. Elgar, F.R.S.; by the Society of Chemical Industry, Dr. E. Divers, F.R.S., past-president of the society; by the Institution of Mining Engineers, Mr. A. Sopwith, past-president of the Institution; and by the Institution of Mining and Metallurgy, Mr. W. McDermott, past-president of the institution. The draft charter for the establishment of the college will be submitted to His Majesty for approval at the council fixed for July 6.

THE Board of Education has published (Cd. 3538) a summary of figures relating to State-aided secondary schools in England. The number of schools dealt with in the summary is 600, but in addition to these there are ninety-three secondary schools provisionally recognised by the Board or seeking recognition, though these are not included. The total number of scholars, excluding pupil teachers, in the 600 schools is 104,938. About 80 per cent. of the total number of scholars are fifteen years of age or under, and the remaining 20 per cent. represent the number of pupils in State-aided secondary schools more than fifteen years of age. About a quarter of the total number of pupils in these secondary schools previously attended public elementary schools and are paying no fees in the secondary schools, while 54 per cent. of the total number previously attended public elementary schools. It is important to remember that the curriculum of secondary schools receiving grants from the Board of Education is dominated by a four years' course of work designed for children who will remain at school until they have completed their sixteenth year at least, and that no grants are paid for pupils under twelve years of age—nearly a quarter of the above total—nor for those who have completed the approved course. There seems, in fact, to be little relation between the character of the prescribed course and the special needs of the majority of the children. If 80 per cent. of the pupils finish their school life at fifteen or under, the curriculum might with advantage be modified in such a way that thoroughness and completeness in a few fundamental subjects may be secured by the majority of the pupils rather than to allow them to fritter away their few valuable years in beginning a course of work which is doomed to be left unfinished and from which little advantage can be gained.

NUMEROUS handsome bequests have been reported in *Science* during the last three months, and in addition to specially large gifts there has been a continuous record of munificence as represented by sums which are small only when judged by American standards. Among other large amounts, the following deserve special mention:—Creighton University has received 500,000*l.* under the will of the late Mr. J. A. Creighton; Teachers College, Columbia University, has been presented with 80,000*l.* by an anonymous donor, and 60,000*l.* under the will of the late Mr. F. P. Fernald. The State Legislature has provided the University of Alabama with 80,000*l.* for buildings and 5000*l.* a year for maintenance. Dartmouth College benefits to the extent of 50,000*l.* under the will of the late Captain Thomas P. Salter. The University of Chicago has received land from Mr. J. B. Rockefeller worth more than 500,000*l.* The Princeton University has received anonymously a gift of 240,000*l.*

DR. J. C. McLENNAN, for some years director of the physical laboratory in the University of Toronto, has been elected to the professorship of physics in succession to Dr. James Loudon.

SOCIETIES AND ACADEMIES.

LONDON.

Royal Society, May 23.—"The Relation of Thallium to the Alkali Metals: a Study of Thallium Sulphate and Selenate." By Dr. A. E. H. **Tutton**, F.R.S.

The author finds that the crystals of thallium sulphate and selenate resemble those of the analogous salts of potassium, rubidium, caesium, and ammonium adequately closely morphologically to enable them to be classed in the same orthorhombic isomorphous series, the average difference of corresponding interfacial angles on analogous potassium and thallium salts being less than half a degree, and the maximum difference only just exceeding a degree. These differences, however, though small, are greater than those between any other of the salts, the average difference, irrespective of direction, being proportional to the higher atomic weight of thallium.

The law revealed by the author's former work, that the changes in the interfacial angles are progressive functions of the atomic weights of the interchanged metals, only applies, however, to potassium, rubidium, and caesium, which belong strictly to the same family group of the periodic classification of the elements; for the differences in the case of thallium occur in either direction indifferently.

The molecular volumes and topic axial ratios (separation along axial directions of centres of contiguous molecules) are almost identical with those of analogous rubidium and ammonium salts, so that structurally thallium comes alongside rubidium and ammonium, intermediate between potassium and caesium.

Optically, however, the thallium salts are quite different, the refractive indices, molecular refractions, and dispersion being far higher, indicating the essential chemical difference of thallium from the true alkali metals and ammonium.

Entomological Society, June 5.—Mr. C. O. Waterhouse, president, in the chair.—*Leiophtilus carphodactylus* in Britain: Dr. T. A. **Chapman**. A living example; one of the first bred British specimens.—*Microdon mutabilis* and *Kleditoma myrmecophila*: H. St. J. **Donisthorpe**. A specimen of *Microdon mutabilis*, with the empty pupa-case, bred from a larva taken in the nest of *Formica fusca* at Porlock, April, 1907; also ♂♂ and ♀♀ of *Kleditoma myrmecophila*, n.sp., bred last month from a nest of *Lasius fuliginosus* found at Wellington College in March.—New Phytophaga from Australia: M. **Jacoby**. Examples of small beetles, new to science, of the new genus *Clythridæ* (Phytophaga), including *Leasia australis*, Jac.—Types of Proctotrupidæ: A. J. **Chitty**. The three types of the three species of Proctotrupidæ described by Westwood, but entirely overlooked by subsequent authors.—A parasitic South African fly: E. E. **Austen**. Examples of *Cordyloba anthropophaga*, Grunb., an African fly, parasitic in the larval stage on human beings and animals—a true Muscid—hitherto confused with another fly. The author exhibited *Bengalia depressa*, Walk., a totally different